DOCUMENT RESUME

ED 253 802 CG 018 005

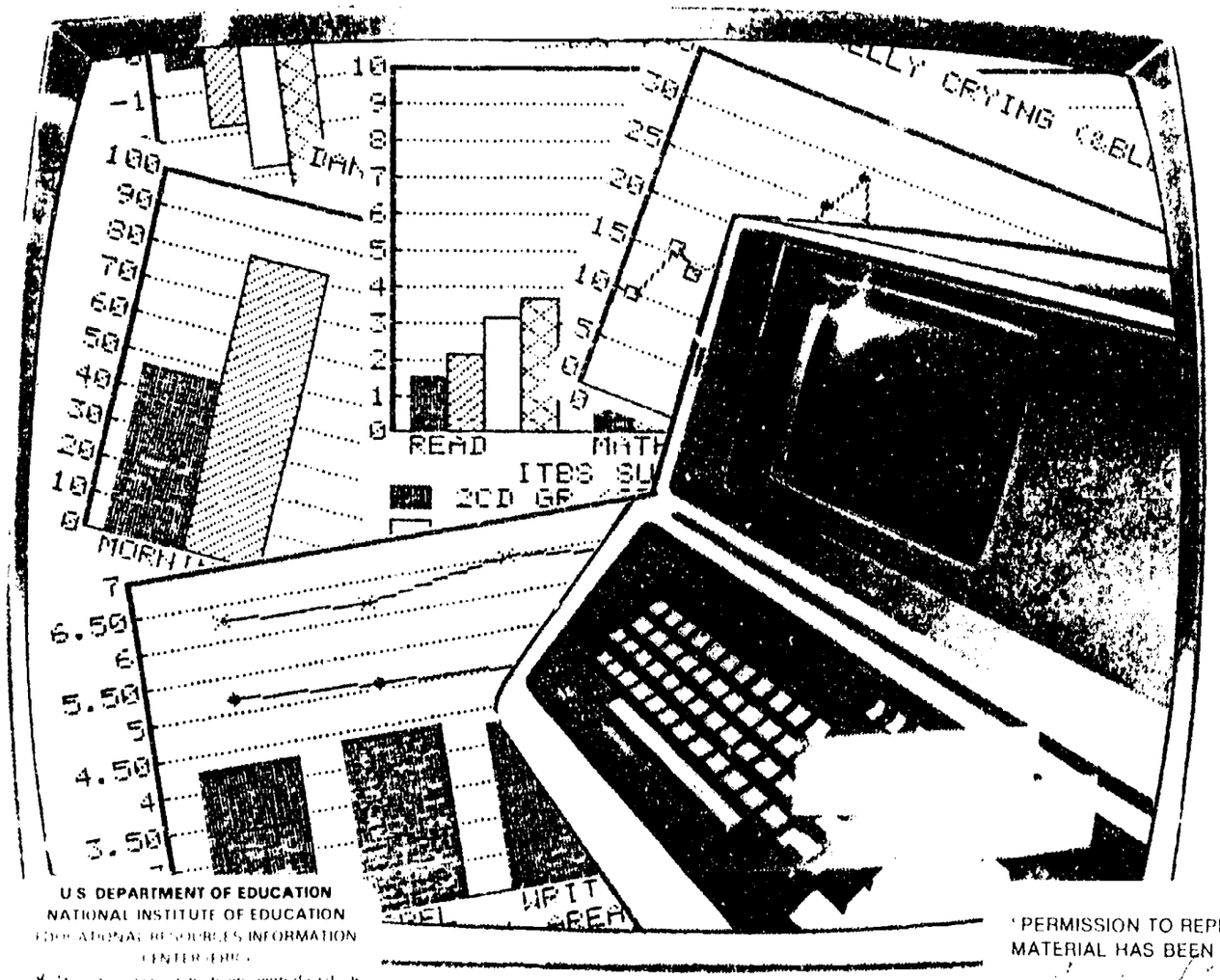
TITLE Graphically Speaking.
INSTITUTION Iowa State Dept. of Public Instruction, Des Moines. School Psychological Services.
PUB DATE Oct 84
NOTE 42p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Communication (Thought Transfer); *Computer Graphics; Elementary Secondary Education; *Graphs; *School Psychologists

ABSTRACT

This publication provides examples that illustrate how school psychologists might use graphs to improve communication of their perceptions, data, and understanding of clients' behavior to parents and students, and to other educators. The booklet is divided into two parts. Part I presents 15 graphs which were sent to school psychologists in Iowa who wrote narratives to accompany the graphs as though they were to be included in a psychological report. Multiple examples of graph explanations are provided, depicting behavioral, academic, and test data. The explanations are not presented as models of the "right" way to discuss the graphs, but rather as possibilities for consideration. Part II consists of 19 original graphs contributed by school psychologists to offer diverse examples of graphic communication of information. A list of people who contributed to the document is provided. (BH)

Graphically Speaking



School Psychological Services

Iowa Department of Public Instruction

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Special Education Division
Grimes State Office Building
Des Moines, Iowa 50319

STATE BOARD OF PUBLIC INSTRUCTION

Lucas J. DeKoster, President, Hull
Dianne L. D. Paca, Vice President, Garner
Wesley S. Chapman, Des Moines
Jolly Ann Davidson, Clarinda
Stephen C. Gerard, Sigourney
Karen K. Goodenow, Wall Lake
John Moats, Council Bluffs
Mary E. Robinson, Cedar Rapids
Susan M. Wilson, Waterloo

ADMINISTRATION

Robert D. Benton, State Superintendent, and Executive Officer
of the State Board of Public Instruction
David H. Bechtel, Administrative Assistant
James E. Mitchell, Deputy State Superintendent

Pupil Personnel Services Branch

Drexel D. Lange, Associate Superintendent
J. Frank Vance, Director of Special Education
Richard E. Fischer, Chief, Special Education Support Services
Jeff Grimes, Consultant, School Psychological Services

GRAPHICALLY SPEAKING

Project Coordinator

Jeff Grimes

October, 1984

INTRODUCTION

One of the most challenging tasks which psychologists encounter is to effectively communicate their perceptions, data and understanding of their clients' behavior. Typically we use written and spoken words to convey ideas. While words serve us well they are not the whole picture. Visual means of communication are rich with possibilities for promoting understanding. Specifically, graphs can assist us in the communication process and might be used in the written reports, conferences and staffings, or other situations where you want someone to "see your point of view", "look at a behavior in a new way" or "share your perception". In using this approach, complex ideas become condensed to a visual depiction of an interrelated set of information. This type of communication might be considered graphically speaking.

The purpose of this publication is to provide examples of graphs and illustrate how graphs might be utilized by school psychologists to enhance their communication. The publication is divided into two parts. Part I is composed of 15 graphs which were sent to school psychologists in Iowa who were asked to write a narrative as though it were to be included in a psychological report. Generally, there are multiple examples of how the graph might be explained to others. These narrative provide a contract in how different professionals might communicate their ideas. These are not models of the right way, rather they are possibilities for you to consider. Part II consists of 19 original graphs contributed by school psychologists and offers diverse examples of visual communication. Appreciation is expressed to all who contributed to this document!

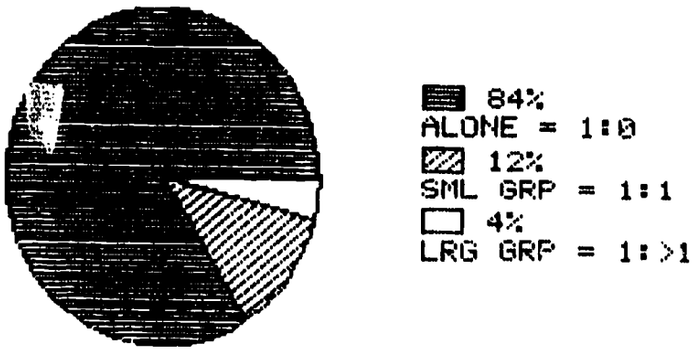
Computer generated graphics holds the promise of transforming visual communication into an efficient and effective process. Case specific graphs, such as those in this publication, can be created in less than five minutes. We constantly strive to find and utilize approaches which will enhance our effectiveness as school psychologists. Graphs offer a means of enhancing your communication effectiveness with students, parents and educators.

CONTRIBUTORS

Aldrich, Bill (Tennessee)
Baum, Laura (ISU)
Bowers, Julie (U of I)
Braccio, Kay (Colorado)
Campbell, Linda (Colorado)
Cone, Tom (AEA 9)
Cross, Darrell (AEA 11)
Eberhart, Steve (U of I)
Gile, Larry (AEA 14)
Grossman, Patricia (AEA 14)
Johnson, Anne (U of I)
Kasza, Linda (Colorado)
Kimple, John (AEA 9)
Kisilewski, David (AEA 2)
Leshner, Anita (Ohio)
Lopno II, Robert (AEA 9)
Lorenz, Jim (AEA 2)
McLallen, James (AEA 9)
Meredith, Kurt (AEA 15)
Meyers, Joe (AEA 11)
Montgomery, Jack (AEA 6)
Nielsen, Lisbet (No. Carolina)
Potiebaum, Sheila (U of I)
Smith, Ed (AEA 11)
Soyster, Harry (AEA 10)
Stumme, Vicki (AEA 11)
Thomas, Alex (Ohio)
Thompson, Barbara (ISU)
Ulman, Joe (AEA 3)
Winslow, Bonnie (AEA 3)
Winters, Wayne (Colorado)

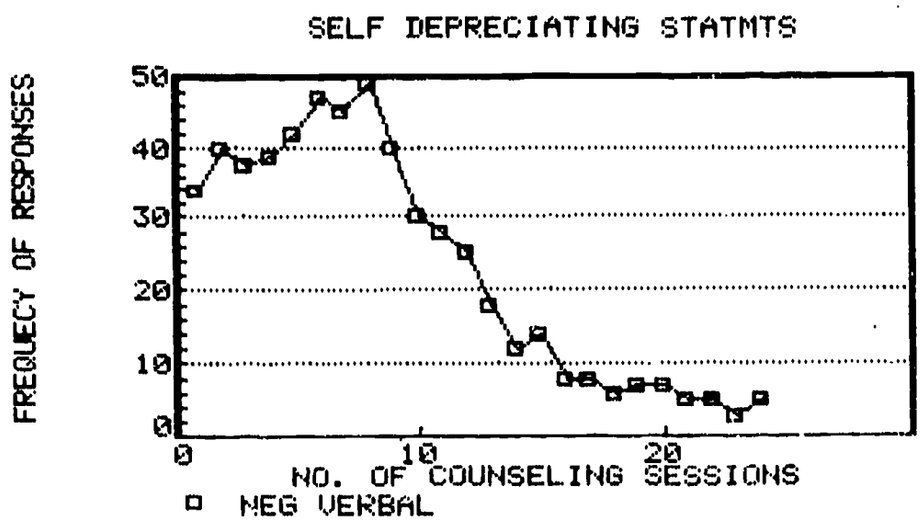
PART I

ERIN SOCIAL BEH AT RECESS
SOCIAL INTERACTIONS OCT84



The results of the sociogram applied to Erin's third grade class, the Bristol Social Adjustment Guides, and the Inferred Self-concept Scale interpreted above, strongly indicates the extent of this boy's apparent feelings of isolation and interpersonal relationship difficulties. Three structured observations of Erin during recess periods, each encompassing approximately fifteen minutes, yielded the combined social interactions data contained in the above Graph. This social interaction "picture" was verified by the playground monitor's informally derived perception of Erin over the last three months. As can be seen, Erin is not interacting with others approximately 84% of the time during activities specifically designed to enable and facilitate healthy interactions. It is the examiner's opinion that aside from the obvious extent of "aloneness," the extremely limited amount of small group, one-to-one interaction is particularly telling. The examiner would view Erin as dramatically in need of an intervention designed to improve his self-image, his social skills, and thus, his active participation in positive social interaction. (Larry Gile, AEA 14, Creston, Iowa.)

The chart above shows Erin's social behaviors at recess. The chart is set up specifically to relay information concerning Erin's social interactions in large group, small group, and time spent alone. Apparently, an overwhelmingly percentage (84) of Erin's recess time is spent alone while a relatively small percentage is spent in small group activity (12) and an even smaller percentage is spent in large group activity (4). (Sheila Potlebaum, U of I, Iowa City, Iowa.)

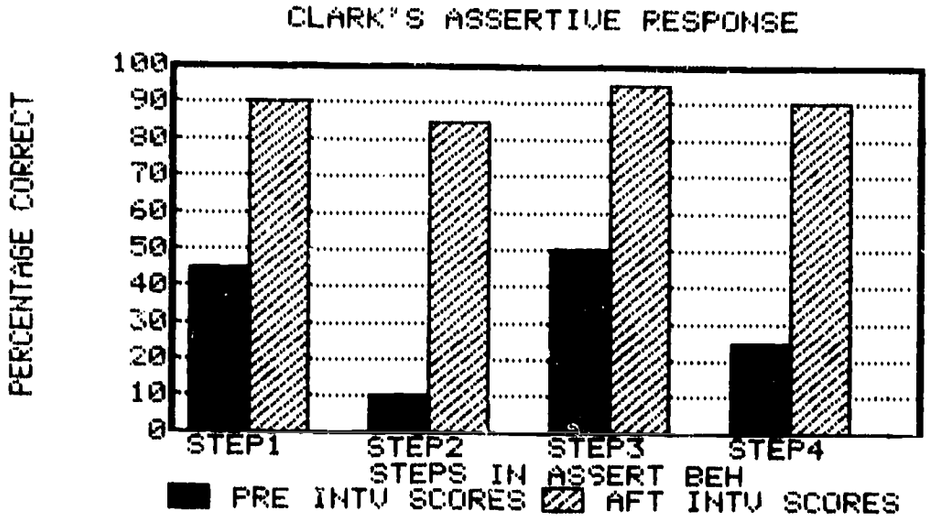


The above graph depicts the course of the therapeutic intervention to reduce self depreciating statements. It should be noted that in the early stages of counseling there was a slight increase in frequency of self depreciating responses, however after session 10 there was a steep decline of such statements. By session 20 the self depreciating statements were occurring at a low and stablized rate indicating that new behavior had been learned.

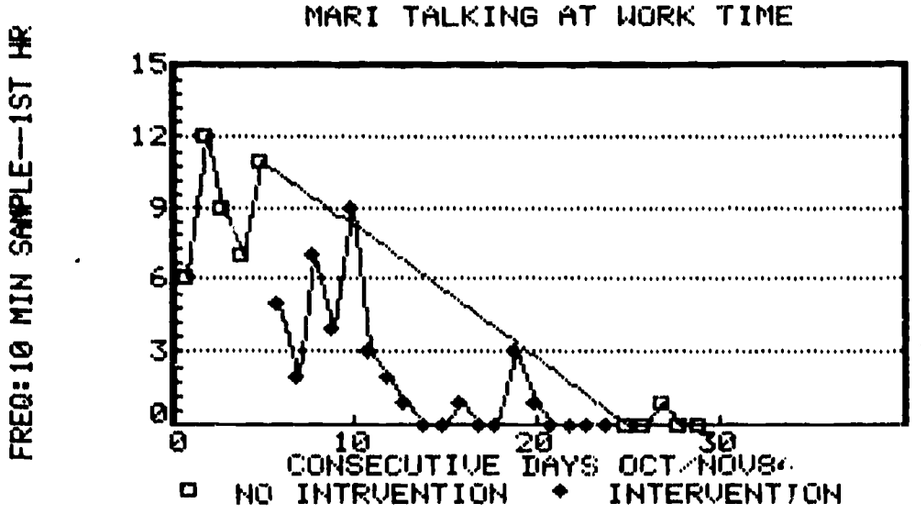
The graph shows that as one becomes more aware of their own behavior, they may also increase the recording of it in a reactive manner as described in the self-monitoring literature. However as one continues to monitor his own behavior it will tend to change in the pro-social direction as noted in the declining phase. As one learns new behavior it becomes automatic and is denoted in the graph by the low frequency and stablized plateau area. (Darrell Cross, AEA 11, Knoxville, Iowa.)

The following graph describes how the frequency of self-depreciating statements decreases as the number of counseling sessions increases following the eighth session. Self-depreciating statements actually increase during the time between the first and eighth counseling session, peaking at a frequency of 50. After the eighth counseling session, the frequency steadily declines and levels off around two. It appears there is a strong correlation between counseling sessions and the reduction of self-depreciating statements. (Julie Bower, U of I, Iowa City, Iowa.)

There was an approximate threefold decrease in self-depreciating statements over the course of 24 counseling sessions. The reduction however, did not begin to occur until the 10th session. During the final 10 sessions, the frequency per session stabilized at less than 10 self-depreciating comments per session from its initial plateau of between 34 and 50 such statement for each session. (Harry D. Soyster, AEA 10, Cedar Rapids, Iowa.)



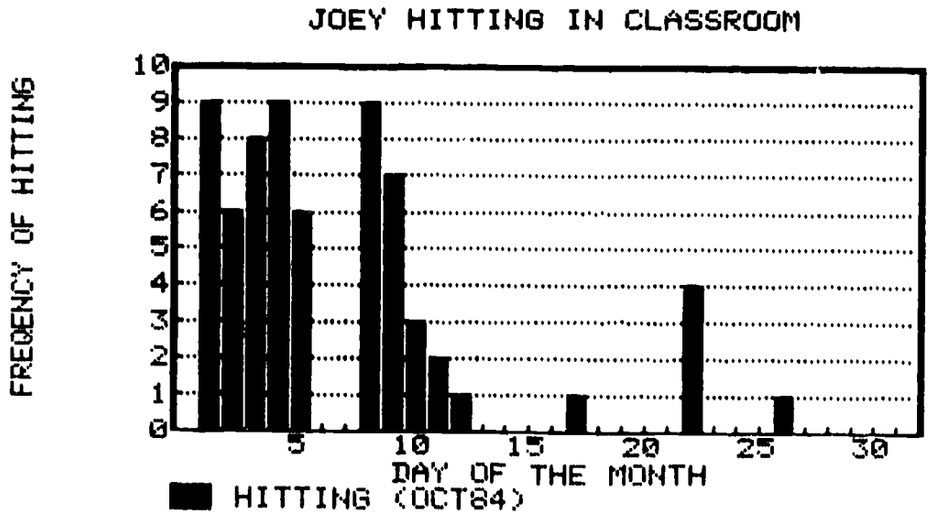
Prior to implementing the above described treatment plan, Clark was evaluated utilizing an assertive behavior inventory to ascertain his response in situations requiring assertiveness. The graph above provides a visual picture of Clark's responses before and after the intervention was implemented. It is clear from the graph that Clark's percentage of assertive responses increased dramatically after intervention. His responses displayed for each of the four steps was correct over 80% of the time after intervention, while prior to this he was responding at the correct assertive level only 10 to 50% of the time. It appears that Clark has developed the skills necessary to become more assertive and hopefully this will increase his confidence in himself and his abilities. The goal now should be to maintain these skills and increase Clark's use of them in natural situations at school and at home. (Patricia Grossman, Cloutier, AEA 14, Creston, Iowa.)



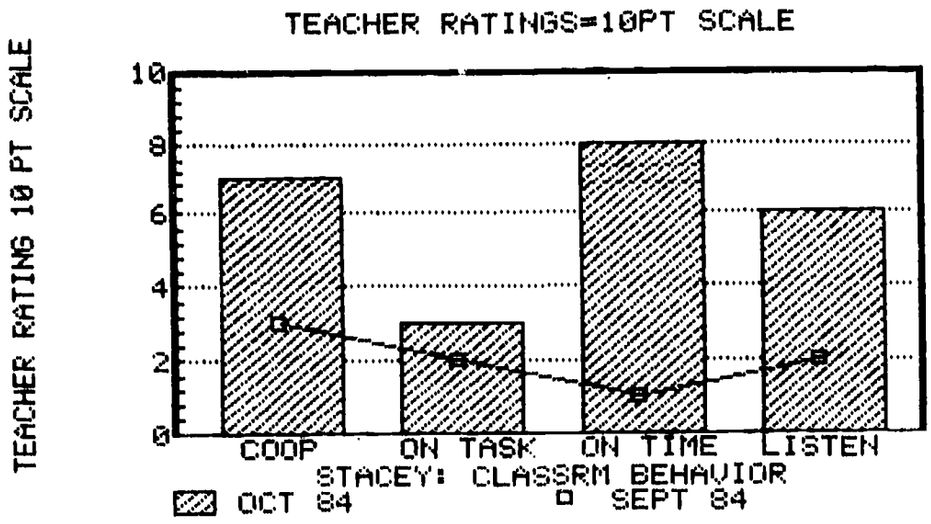
The above graph demonstrates the results of an intervention procedure designed to reduce Mari's talking during work time. Frequency counts of Mari's talking were recorded from ten-minute samples during the first hour of work time. Data was collected over a 30-day period which can be broken into three phases. First, baseline data was taken to obtain an estimate of the number of times Mari talked. This baseline period of five days indicated an average of nine talk-outs per ten-minute sample. Second, an intervention phase was initiated in which a specific consequence was made contingent on Mari's behavior in an effort to decrease talk-outs. This phase lasted 19 days and resulted in an average of two talk-outs per ten-minute sample. The final phase consisted of five days and was characterized by the withdrawal of the intervention and return to baseline. The average number of talk-outs over these five days was zero.

The results of this intervention appear very impressive and are judged to be socially valid by Mari's teacher who reports less talking and greater work output. Despite this apparent success, it should be noted that this plan cannot be internally validated, i.e., from the presented data, it is impossible to conclude that the observed behavior change was a direct result of the single intervention used. Such a conclusion could only be supported if observed talking behavior increased upon withdrawal of the intervention. Therefore, it is possible that another factor was operating at the same time the intervention was implemented which accounted for the decrease talk-outs.

Thus, Mari's talk-outs decreased over a 19-day intervention period. This decrease is significant, however, one is not able to conclude that the intervention was totally responsible for observed behavior change. Consequently, it is recommended that data taking continue in an attempt to document internal as well as provide external validation., i.e., the feasibility of generalizing this plan to other students with similar behaviors. (Jim Lorenz, AEA 2, Clear Lake, Iowa.)

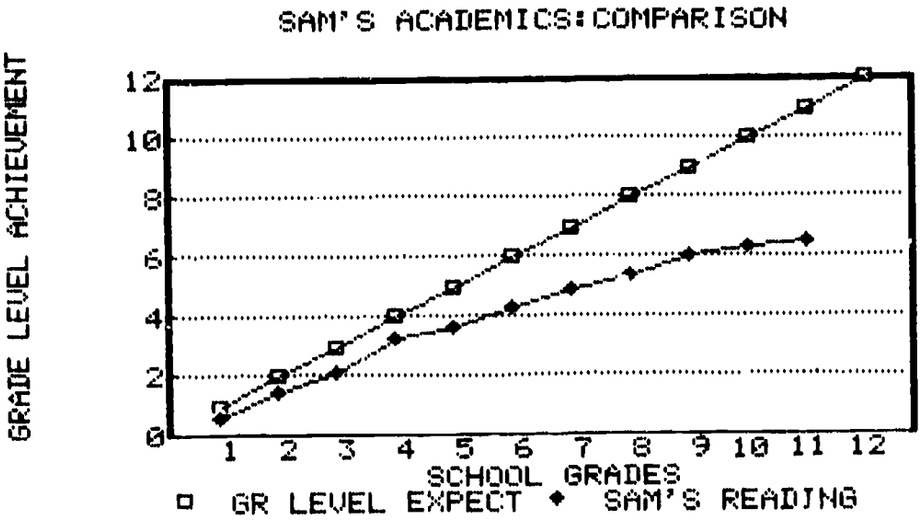


The following graph depicts the frequency over a period of a month of Joey's hitting in the classroom. It clearly shows that the frequency of Joey's hitting is at a very high rate at the beginning of the month and then drops off sharply towards the middle and remains so the rest of the month. After the 15th of the month, only three days report hitting by Joey. Two of the three days have a frequency of only one, while the other day reported a frequency of four hits. It appears the problem occurs mainly during the beginning third of the month. (Julie Bower, U of I, Iowa City, Iowa.)



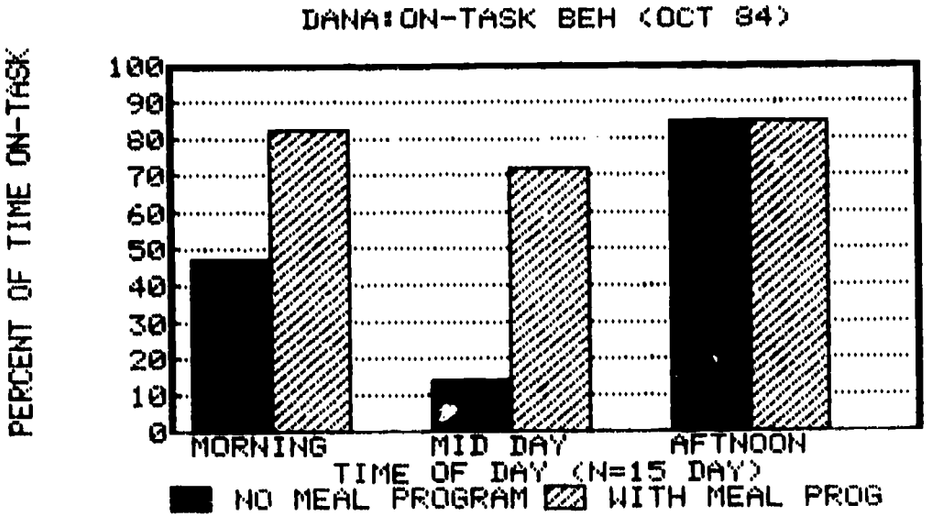
In the one month period from September to October, 1983, Stacey has made significant improvements in three areas of classroom behavior as rated by her teacher using a 10-point scale. In September, Stacey received low scores on cooperative, on-task, on-time, and listening behaviors. Although her teacher indicated little improvement in Stacey's on-task behavior after one month, her cooperation and listening skills were rated significantly higher. The most significant improvement was noted in the teacher's rating of Stacey's on-time behavior. Since the teacher continues to rate Stacey's on-task behavior as low, this area will be examined more closely to determine ways of improving Stacey's on-task behavior. (Barbara Thomps[illegible] ISU, Ames, Iowa.)

Due to the difficulty Stacey has had managing his behavior in the classroom, a behavior rating scale was completed by Stacey's teacher in September, 1983. Four behaviors were targeted for analysis and they included Stacey's level of cooperation, Stacey's on-task behavior, his on time behavior and his listening skills. The accompanying graph details Stacey's performance on that initial measurement and indicates that Stacey's highest rating was on his level of cooperation where he obtained a rating of 3. His listening and on-task skills were rated a 2 and his on time behavior was rated a 1. These scores were based on a ten point scale. Following a month long intervention procedure, Stacey's teacher again completed the teacher rating scale in October of 1983. The tabulation of this rating scale indicated Stacey to have improved his behavior on all areas targeted. Stacey obtained an on time rating of 8, a cooperation rating of 7, a listening skills rating of 6 and an on-task rating of 3. On all but on-task behavior Stacey's performance is seen by this psychologist as significantly improved. On-task behaior does appear to continue to be a difficulty for Stacey and more work needs to be done in this area. (Kurt Meredith, AEA 15, University Park, Iowa.)

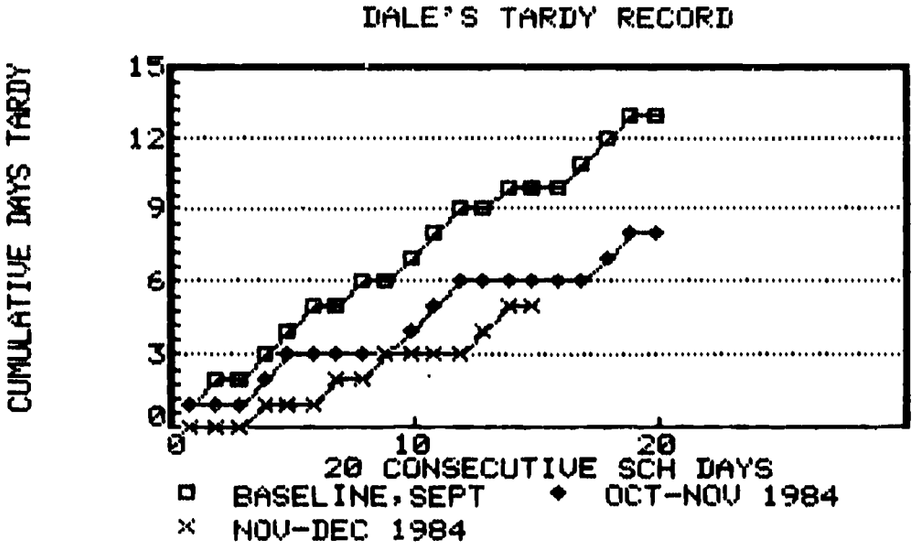


Sam's progress in developing reading skills is depicted in the above graph. As could be predicted from Sam's level of ability, he progressed only slightly below his peers the first few years of school and then began to fall further behind. As has been seen in other academic areas, Sam could not compete when material became more abstract and more difficult. An important factor to note is that Sam appears to have reached a plateau (reading scores have leveled off near the 6th grade level) and will not likely improve his reading skills much above this level. This should be taken into consideration in meeting Sam's needs in the area of reading. (David J. Kisilewski, AEA 2, Mason City, Iowa.)

The above graph indicates the expected growth in reading for a child's progress through the grades. Sam's growth has also been indicated and it can be seen that, while Sam has shown some growth in reading every year, he has not progressed at the expected rate. He is currently functioning at approximately the 6.2 grade level which is substantially below grade level. He warrants special instruction in this area of severe deficiency. (Sheila Potlebaum, U of I, Iowa City, Iowa.)



The effect of Dana's participation in the meal program on her on-task behavior has been illustrated through the use of a graph (see above). When she participated in the meal program, Dana exhibited more on-task behavior than when she was not in the meal program. However, it can be seen that her participation in the meal program was correlated with higher percentages of on-task behavior specifically during the morning and mid-day sessions. The data suggest that providing Dana with early morning and mid-day sustenance will increase her overall on-task behavior to appropriate levels. (Anne Johnston, U of I, Iowa City, Iowa.)

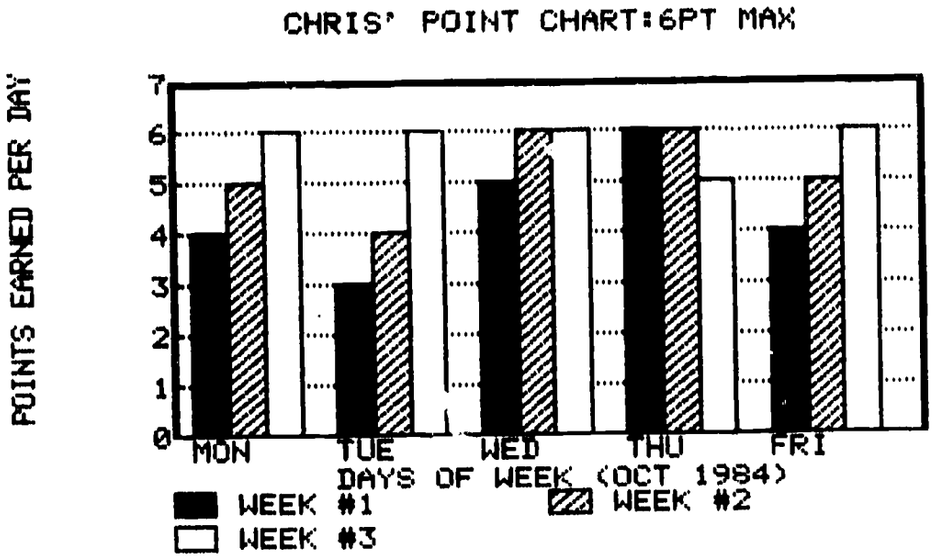


Baseline data on Dale's tardy behavior was established during the month of September. During this initial 20 day measurement interval Dale was late 13 times. The longest number of days, in succession, that Dale was able to make it to school on time was three. He was tardy, on the average, once every 1 1/2 days.

Positive reinforcement was introduced for appropriate behavior in October and continued through part of December. Within this treatment period Dale's tardy behavior began to decline. During the October-November 20 day interval, Dale was late eight out of twenty times for a 38% decrease in tardiness. He was not tardy any more days successively, than during baseline but managed to be on time six days in a row for a 50% increase in timely behavior. The average number of times Dale was late became once every 2 1/2 days.

During the November-December treatment interval Dale was late five out of twenty times for an overall decrease in inappropriate behavior of 72%. Successive days of attendance rose to seven for a total increase of 43%. The average number of days tardy decreased to once every four days. Significant data change is suggestive of appropriate intervention. (Jack Montgomery, AEA 6, Marshalltown, Iowa.)

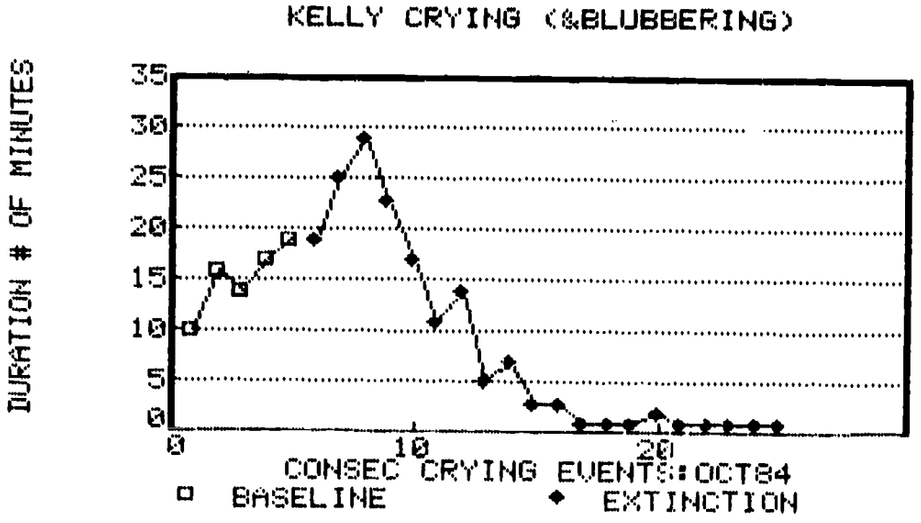
During the months of September, Dale was tardy to school on 13/20 days. In October and November he was Tardy 8/20 days. In the two months of November and December, Dale was tardy only 5 of the 20 school days. (Ed Smith, AEA 11, Boone, Iowa.)



A point system was designed to correct a behavior that, by team consensus, appeared to be detrimental to Chris' own best interests.

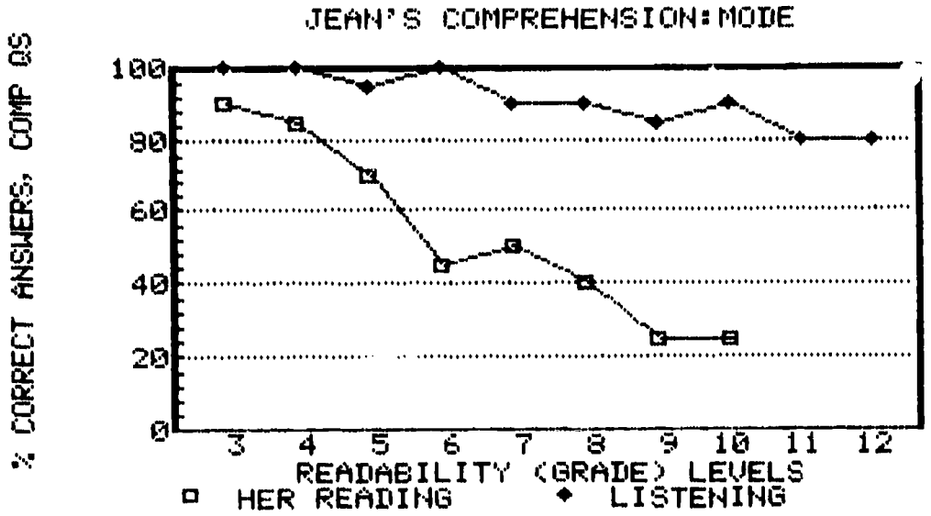
An interview with Chris established a reinforcement menu and a "verbal contract" set the parameters for the number of points (earned by appropriate behavior) rewarded for certain rewards/privileges. Six points were agreed upon as a prerequisite and the program was initiated.

During week #1 the criterion level was only met once so an R+ change was made. During week #2 criteria were met two out of five days for a 50% increase in appropriate behavior. During week #3 successful levels were achieved four out of five days for an overall increase of 75%. The data reflect effective stimulus control. (Jack Montgomery, AEA 6, Marshalltown, Iowa.)

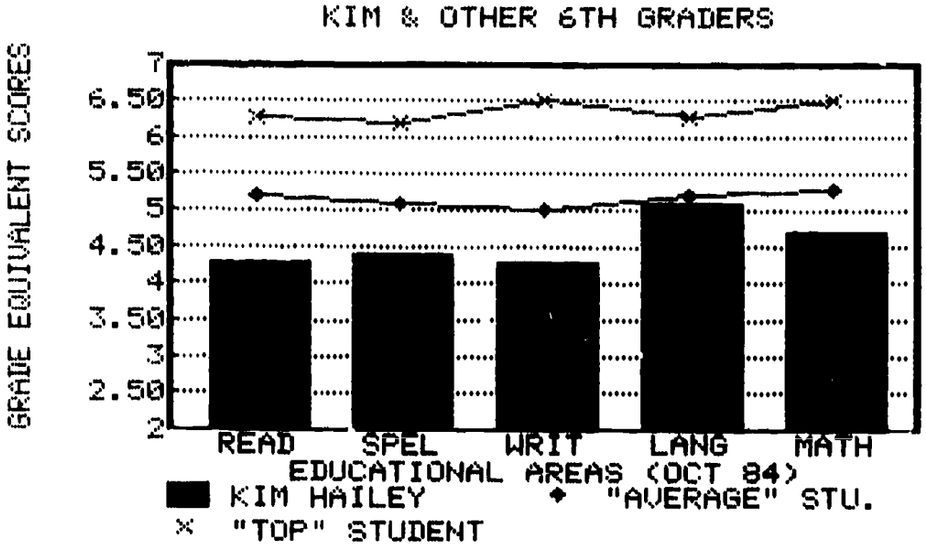


Kelly's teacher stated that she was crying and blubbering a great deal in class. This usually occured during the first period. A baseline was taken during the first five days in October to determine how many minutes Kelly spent crying during the first period. She spent from 10-20 minutes a day during this time crying. Her teacher usually responded to Kelly's crying by asking her what was wrong and comforting her. Her teacher was instructed to completely ignore Kelly's crying and blubbering beginning October 6. The teacher was asked to deal with Kelly's crying in this manner for the rest of the month. At the beginning of this time (the extinction phase), Kelly's crying rapidly increased for three days. It then begun to rapidly decrease and was almost at zero 12 days after extinction was first used. Her crying behavior remained approximatley at zero for the following week. (Steve Eberhart, U of I, Iowa City, Iowa.)

This graph demonstrates the strength of the program implemented to decrease Kelly's crying behavior. It can be seen that before the intervention, Kelly's crying episodes lasted 10, 16, 14, 17 and 19 minutes. At the beginning of the intervention period, Kelly's crying episodes increased in number of minutes to a high of 29 minutes. However, the duration of Kelly's crying and blubbering events quickly dropped after this. By the 12th episode after beginning the intervention, Kelly's crying was decreased to an average of one minute/episode. (Bonnie Winslow, AEA 3, Algona, Iowa.)



Jean's listening comprehension remains at 90% or above as level of readability increases from third through twelfth grade. However, her reading comprehension falls to 76% for 5th grade readability material with subsequent decreases to between 40 and 50% for 6th through 8th grade readability material and finally 22% reading comprehension for 9th and 10th grade readability material. (Harry D. Soyster, AEA 10, Cedar Rapids, Iowa.)

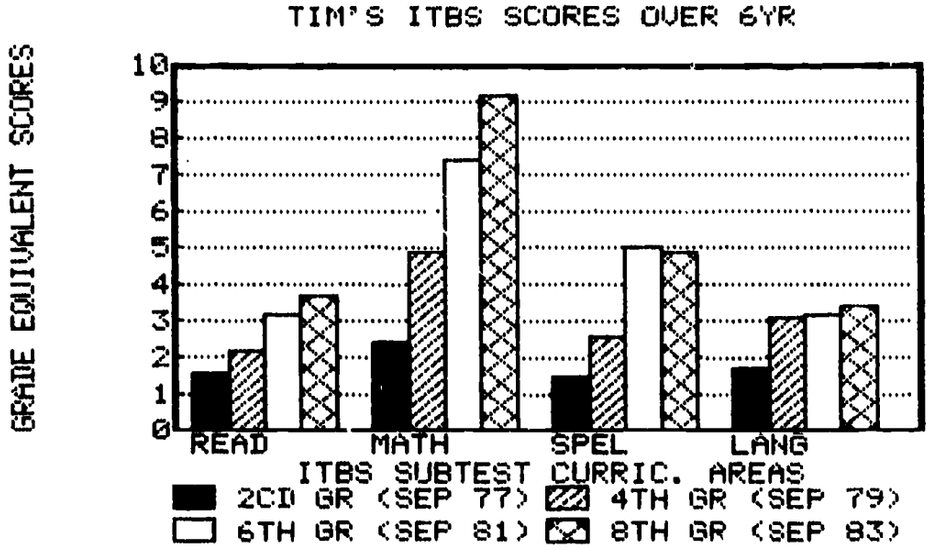


Kim's performance on the October 1983 Iowa Test of Basic Skills is roughly the same across all content areas (reading, spelling, writing, language and math). All five scores are below average. According to this graph, Kim's performance can be compared to the typical and top student's performance in her class. The typical student is functioning below average. Kim earned a score similar to this student in language, but falls below this level of performance in the other content areas. The top student in Kim's class is functioning at about an average range; all of Kim's scores are well below this range.

Kim's teachers need to be aware of the fact that, according to this test, the majority of the sixth-grade class is functioning below grade level. Subject matter taught in previous classes may need to be reviewed. (Laura Baum, ISU, Ames, Iowa.)

This graph depicts Kim's reading, spelling, writing, language, and math skills as compared to the "top" student in the 6th grade and as compared to the functioning of a student who would be considered to be doing average work within that group of 6th graders. It can be seen that Kim's ability is nearly equal to an average student's in the area of language. In all other areas, her academic skills are 6 months or more below average, as measured by the grade equivalent scores. Four of Kim's five scores fell in the 4th grade range of functioning. (Bonnie Winslow, AEA 3, Algona, Iowa.)

Kim Hailey was recently administered a battery of academic achievement tests. That battery revealed Kim to have developed her various academic skills areas quite consistently across all academic areas measured. The areas tested included reading, spelling, writing, languge and math. All results except for language fell at or near the 4.5 grade equivalency level. Kim attained a language grade equivalency of 5.1 which is only slightly above the other areas sampled and is not considered significantly different. While Kim's achievement scores are below her present sixth grade placement, it should be noted that the "average" student in her class is at or only slightly above the fifth grade level. While Kim's performance is seen as below grade expectations, she is not as significantly different from her classmates as this data might first indicate. (Kurt Meredith, AEA 15, University Park, Iowa.)



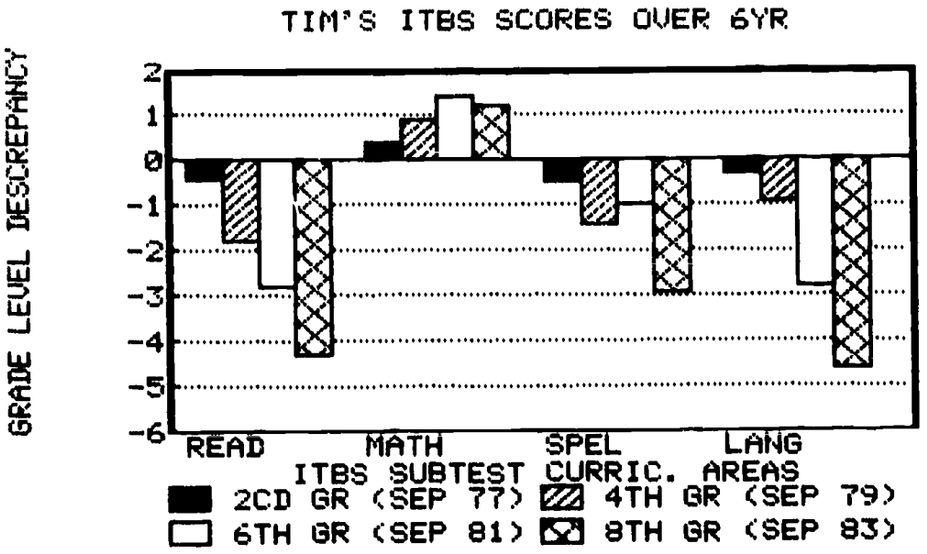
A review of Tim's ITBS scores over the past 6 years reveals some strengths and weaknesses. As can be see on on the graph of Tim's score, math has remained a solid strength. He scored approximately a year above in his grade placement during those six years, indicating math is an area of competence for Tim.

Other areas, however, reveal a growing discrepancy between Tim and his classmates in reading, spelling and language. The graph reveals a definite history of Tim's losing ground in the development of these academic skills until he is at present, 3 grade levels below in spelling; 4 grade levels below in reading; and 4 1/2 grade levels below in language. (James P. McLallen, Ph.D., AEA 9, Clinton, Iowa.)

This graph visually suggests a progressively greater discrepancy. That could well be misleading, as the greater variability in the score distributions as one ascends in grade level could result in Tim being no more discrepant at 8th than at 2nd. (Thomas E. Cone, AEA 9, Bettendorf, Iowa.)

Review of group achievement test scores (Iowa Test of Basic Skills) given between second and eighth grade indicates a pattern of underachievement consistent on tasks related most closely to language and verbal learning. Spelling, reading, and language test scores indicate significant underachievement at the eighth grade level as compared to "average" expectations. Mathematics, on the other hand, is an area consistently adequate for grade placement. (John Kimple, AEA 9, Muscatine, Iowa.)

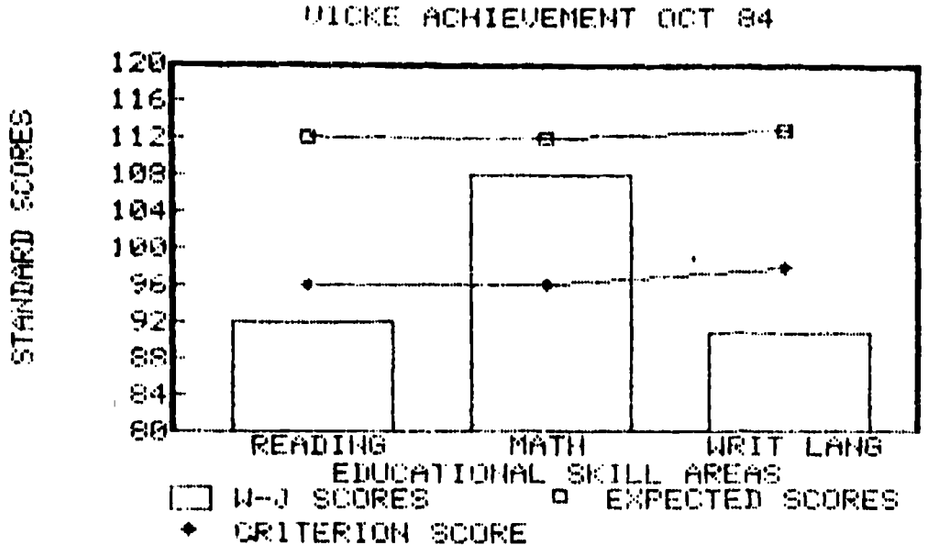
PART II



Tim's scores on the Iowa Tests of Basic Skills (ITBS) during 2, 4, 6, and 8 grades reveal some marked differences in skill development on this group administrated measure. Tim has displayed steady gains in his mathematics grade scores. During the current academic year (1983-84) he is one year ahead of his grade placement in mathematics. However, Tim's grade scores in areas of reading, spelling, and language have shown a rather steady decline. During this current years' testing Tim has shown sharp drops in all his deficit areas. In fact, Tim's respective skill development grade scoresin reading, spelling and language are 4 1/2, 3, and 4 1/2 years below his current grade placement. (Robert L. Lopno II, AEA 9, Bettendorf, Iowa.)

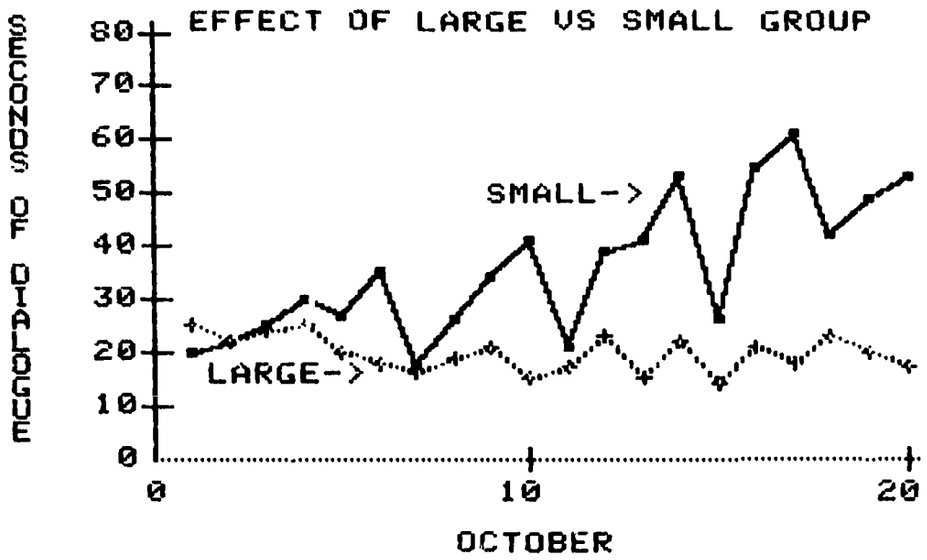
On a nationally normed group achievement test conducted every two years from Tim's second through eighth years of schooling, he has shown a consistent strength in the area of mathematics. In fact, during each year his skills were evaluated with this measure, Tim's math grade score has been approximately 1/2 (second grade) to over 1 year (eighth grade) above his grade placement.

In the other areas of skill development, however, Tim shows considerable underachievement when compared with his grade placement during all four years of assesessment. Grade equivalents in the areas of reading, spelling, and language have been about 1/2, 3/4 and 1/2 in that expected given Tim's grade placement. (Robert L. Lopno II, AEA 9, Bettendorf, Iowa.)

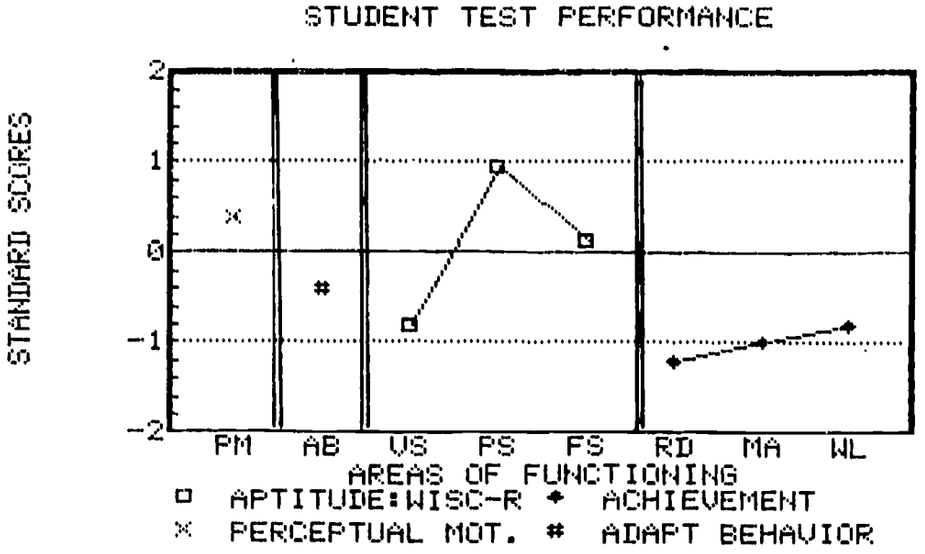


Vicke's performance on the Woodcock-Johnson revealed significant deficits in Reading and Written Language. In relationship to Vicke's intelligence score on the WISC-R, her expected scores on the Woodcock-Johnson in reading, math, and written language are 112, 112, and 113, respectively. In reviewing the above data, Vicke does not meet the expected level of performance in reading (92) and written language (91). Math (108) was the only score that was near the expected level of performance.

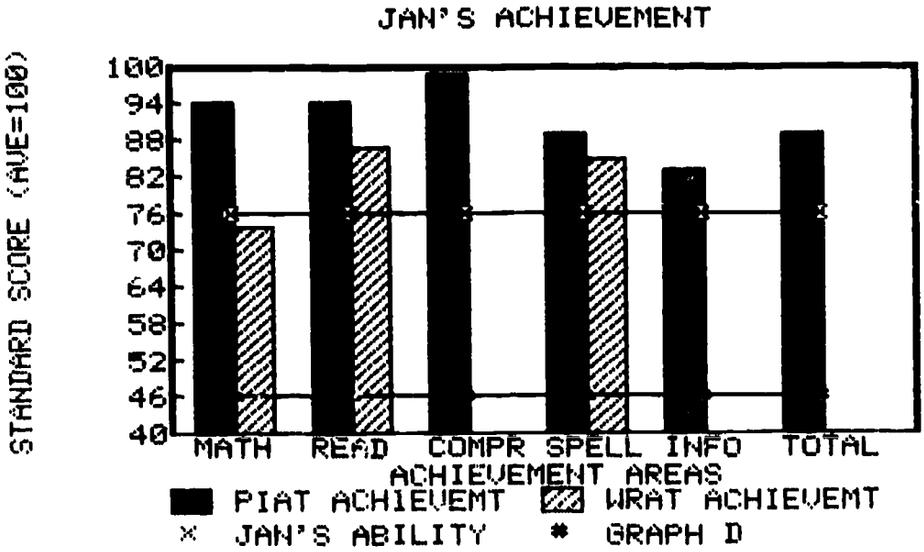
For students to qualify as learning disabiled, a severe discrepancy must be noted between expected levels of performance based on ability and obtained scortes. A severe discrepancy is established by criterion scores which are one standard deviation from expected scores based on ability and corrected for regression. As illustrated in the above graph, Vicke qualifies as learning disabled in the areas of reading and written language. Her performance on the Woodcock-Johnson is below criterion levels in these areas. (Vicki Stumme and Joe Meyers, AEA 11, Ankeny, Iowa.)



The graph represents the difference in the amount of the student's dialogue as a function of the size of group he is a member of. The student's participation in group discussions was monitored for a period of 20 days and it was noted that participation increased in small groups while remaining relatively stable in large groups. (Linda Kasza, Evans, CO)



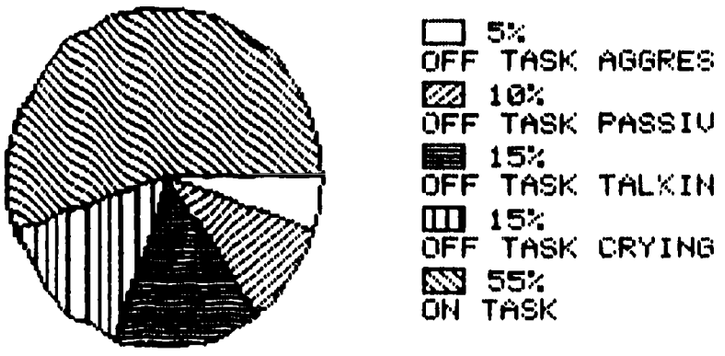
Based on Mary's responses during this evaluation, she is currently functioning in the low Average range for Verbal cognitive learning ability (31%) and in the near Significantly Above Average range for non-verbal (Performance) cognitive learning ability (83%). Her overall performance was in the 56% range. This is not considered a true estimate of her overall cognitive ability due to a significant difference between Verbal & Performance scores. As can be seen on Figure I her current academic achievement functioning level is Significantly below what could be expected based on her ability. Hence, she is certifiable as Learning Disabled under current guidelines. (Lisbet Nielsen, Gastonia, NC)



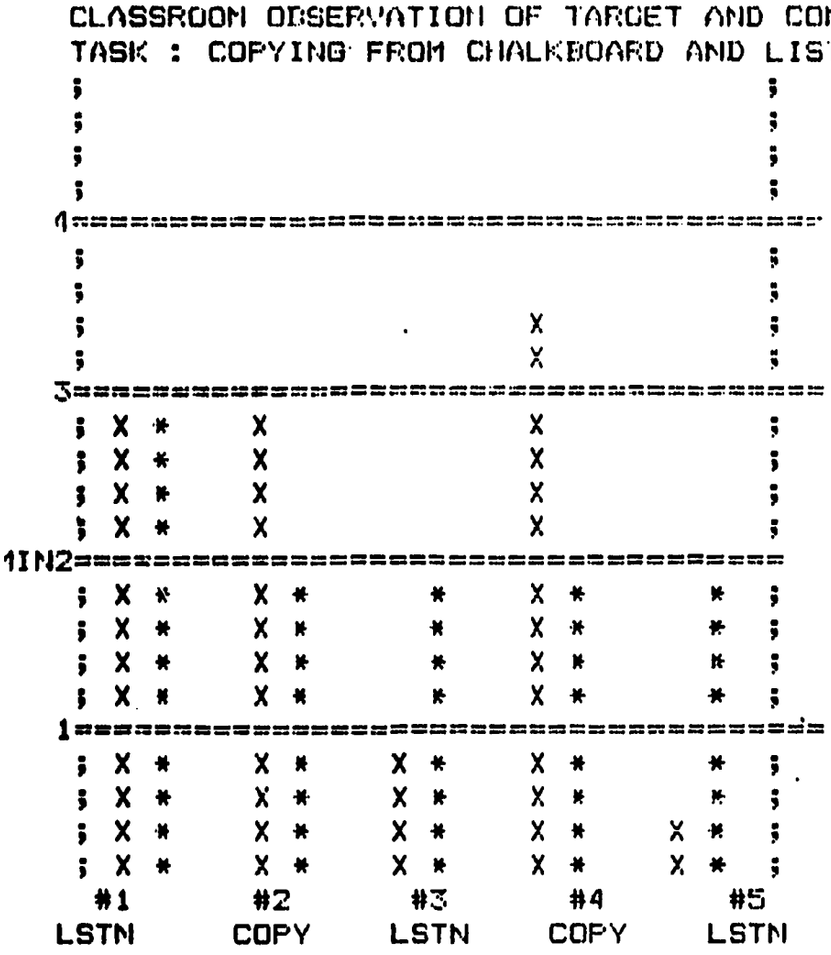
Jan was a newly arrived student at the Junior High School and immediately was referred for learning disability services. In Ohio, a two standard deviation between ability and achievement is required for uncomplicated placement. Graphing Jan's psychometric scores, with the top of the graph considered average functioning, it was concluded that Jan is doing quite well, that expectations and class placements may be adjusted, and that individualized services are more appropriate without going through learning disability placement.

BOB'S CLASS BEHAVIOR

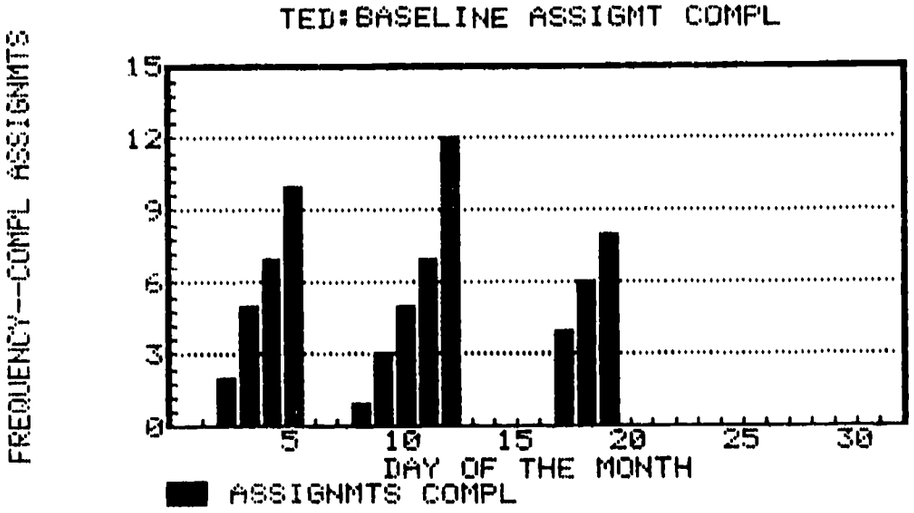
CLASSROOM BEHAVIOR



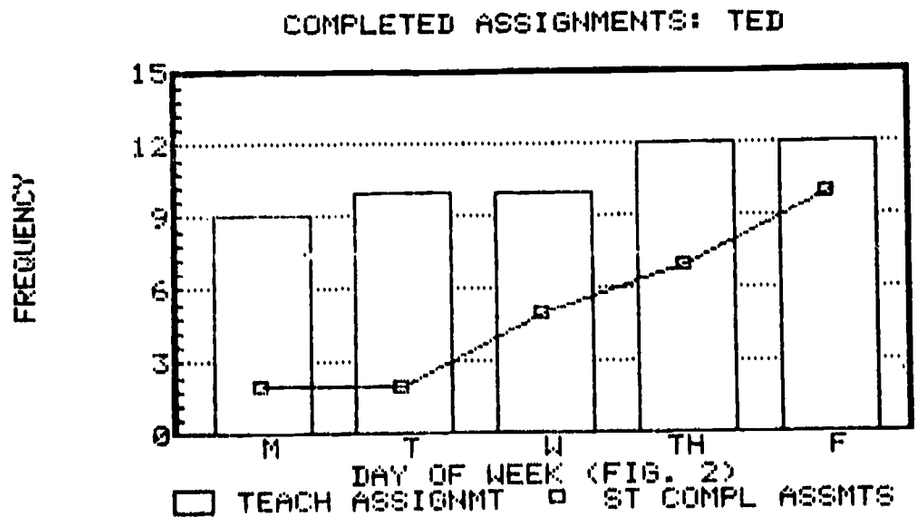
As mentioned previously, the percentage of time Bob spends "paying attention" in class is significantly less than a randomly chosen classmate. Graph A, however, displays the different types of behaviors (and their portion of time) in which he was engaged while "off task." The observation period was a one-hour block of time during which Bob was receiving small group reading instruction from his teacher. This time was chosen because Bob's teacher, Mrs. Anderson, had previously indicated this was a time when his behaviors were typically most troublesome. Reviewing the graph, it can be seen that although not leaving his seat, Bob performed a number of different "off task" behaviors. His activities shifted from talking aloud (with no apparent listener) to quietly crying followed by passively staring at his desk with his head down. On one occasion he was observed to kick out at another student passing his desk. Periods of being on task were consistently after his teacher, Mrs. Anderson, reminded him verbally to "pay attention." Because of both the frequency of his "off task" behaviors, as well as the rapid behavioral shifts, a structured interview was arranged with Bob's mother, Mrs. Johnson. (Joe Ulman, AEA 3, Spirit Lake, IA)

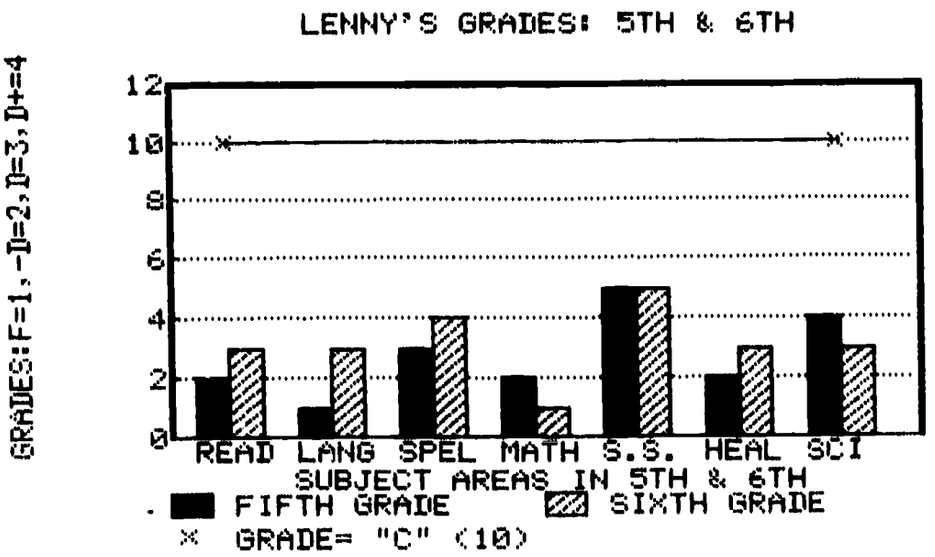


This bar graph illustrates the performance of two children (control and target pupils) alternating between listening and copying from the chalkboard. It can be seen that the target child who is developmentally delayed in visual-motor coordination takes more time to copy and which subseque.. decreases her ability to attend to the teacher's discussion. It can be seen that the target child is at a disadvantage and her need for accommodation (e.g., preferential seating and more time and/or modification of task.) (Anita Leshner, Lebanon, OH)



Ted was expected to complete 10 to 15 mini-assignments each day of which many were not being turned in. The frequency recording indicated a pattern in which the number of turned in assignments was low the first days of the week, increasing during the course of the week. Figure 1 is a graphed depiction of this data. The teacher also recorded the number of assignments Ted was expected to do, and computed a daily percentage of assignments turned in. This added more precision to the baseline recording. A comparison of the first week's frequency recording of the assignments turned in with the percentage of turned in assignments is shown in Figure 2. An intervention period will be initiated to increase the number of student-completed assignments. (Linda Campbell, Longmont, CO)

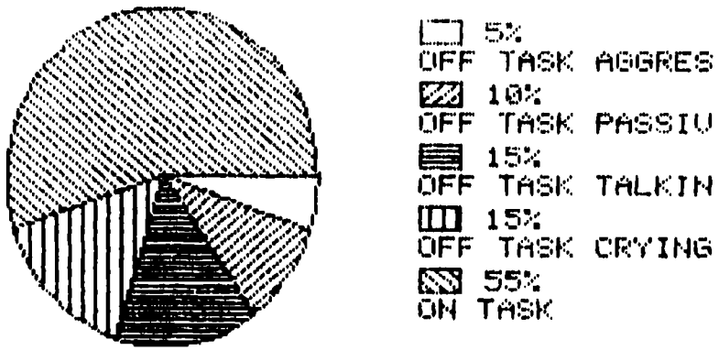




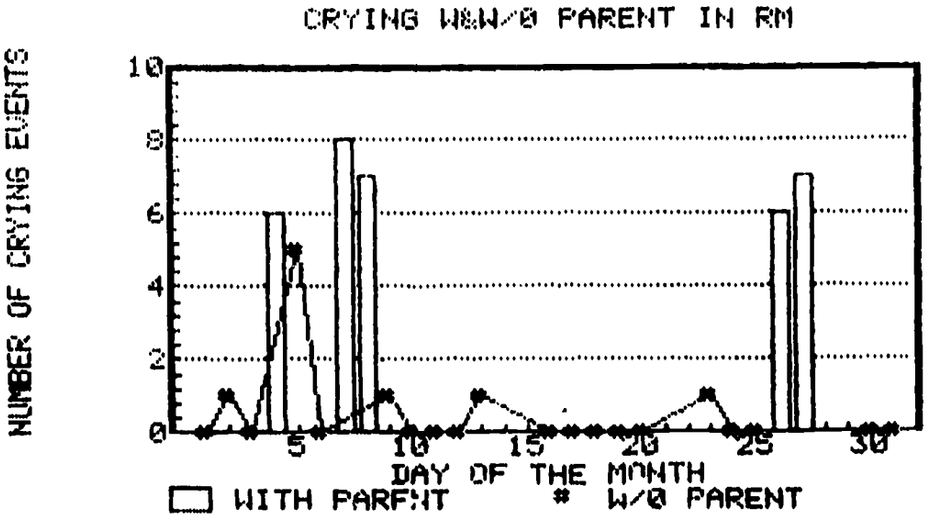
Lenny was concern of junior high counselor who wanted to know if it would be worth while to refer student for LD help in seventh grade. Graph indicates fifth and sixth grades in various subjects. Concern came through counselor from math teacher who felt Lenny was disabled in that subject. Although all grades are generally lower the relatively poor math was quite noticeable. The graph assisted in confirming need for fuller assessment. (Alex Thomas, Port Clinton Schools, Port Clinton, OH)

BOB'S CLASS BEHAVIOR

CLASSROOM BEHAVIOR

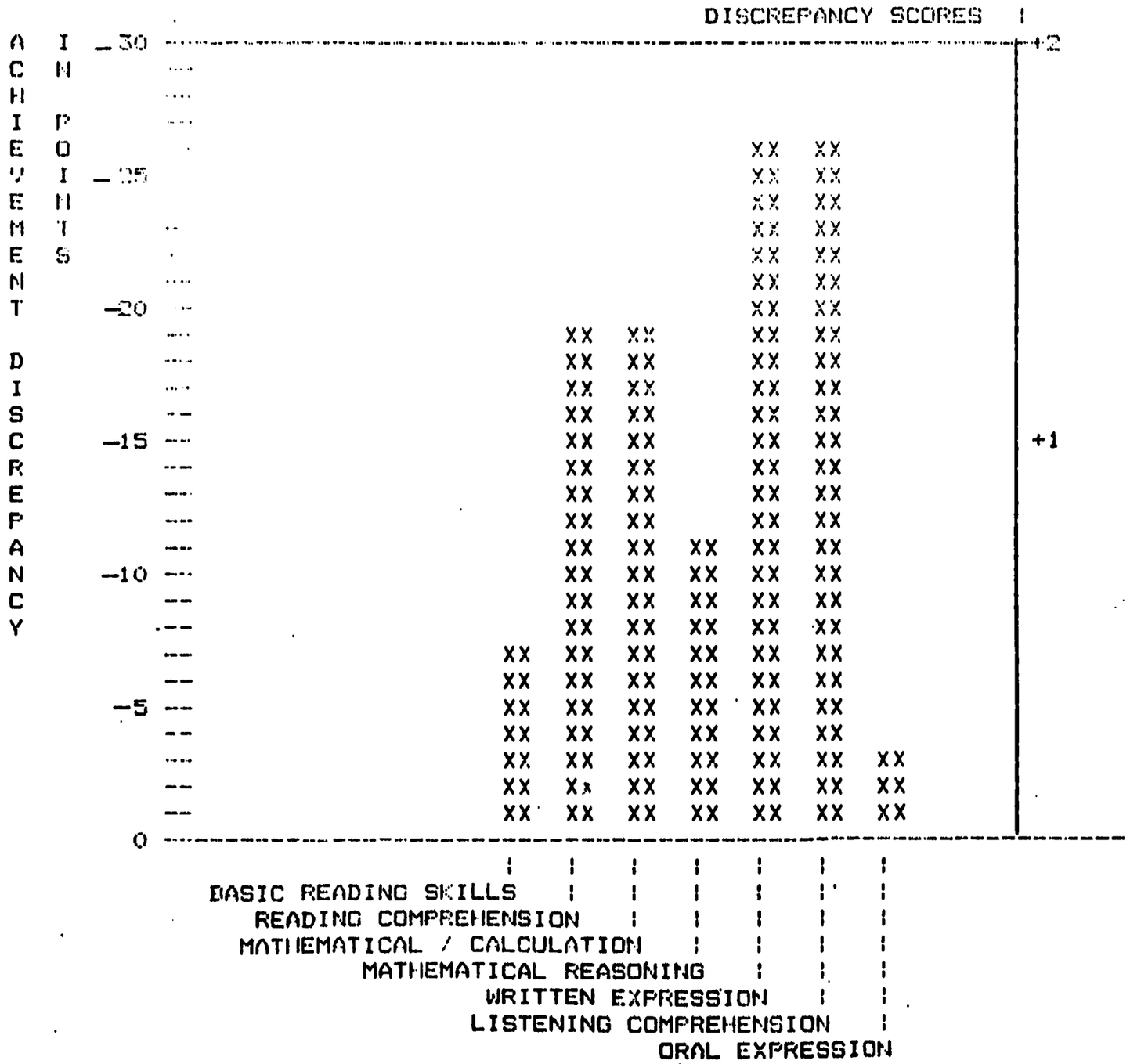


As mentioned previously, the percentage of time Bob spends "paying attention" in class is significantly less than a randomly chosen classmate. Graph A, however, displays the different types of behaviors (and their portion of time) in which he was engaged while "off task." The observation period was a one-hour block of time during which Bob was receiving small group reading instruction from his teacher. This time was chosen because Bob's teacher, Mrs. Anderson, had previously indicated this was a time when his behaviors were typically most troublesome. Reviewing the graph, it can be seen that although not leaving his seat, Bob performed a number of different "off task" behaviors. His activities shifted from talking aloud (with no apparent listener) to quietly crying followed by passively staring at his desk with his head down. On one occasion he was observed to kick out at another student passing his desk. Periods of being on task were consistently after his teacher, Mrs. Anderson, reminded him verbally to "pay attention." Because of both the frequency of his "off task" behaviors, as well as the rapid behavioral shifts, a structured interview was arranged with Bob's mother, Mrs. Johnson. (Joe Ulman, AEA 3, Spirit Lake, IA)



For the past two months, Mrs. Smith (Barb's mother) has voiced serious concerns regarding Barb's adjustment to her new school. In an effort to determine factors which contributed to those difficulties (i.e., crying episodes), Barb's classroom teacher (Mrs. Rizzutti) was asked to keep a simple count of each occurrence. Additionally, Mrs. Rizzutti was asked to keep an anecdotal record of other unusual classroom activities. Graph A shows the relationship of one of those specified activities (class visitations by Barb's mother) with the occurrence of crying on the part of Barb. It is clear that when Mrs. Smith visits the class, Barb's crying behavior increases. (Joe Ulman, AEA 3, Spirit Lake, IA)

DISCREPANCY SCORES BETWEEN INTELLECTUAL AND ACHIEVEMENT



This bar graph displays the discrepany score between intellectual ability and achievement. The scores illustrated in terms of points (based on 15 points to 1 standard deviation) and the relationship of points to the LD discrepancy formula. The visual illustration of points and their correspondence to a discrepancy score of +2 helps to clarify the degree of the child's deficiencies in the seven areas relative to his ability. (Anita Leshner, Lebanon, OH)

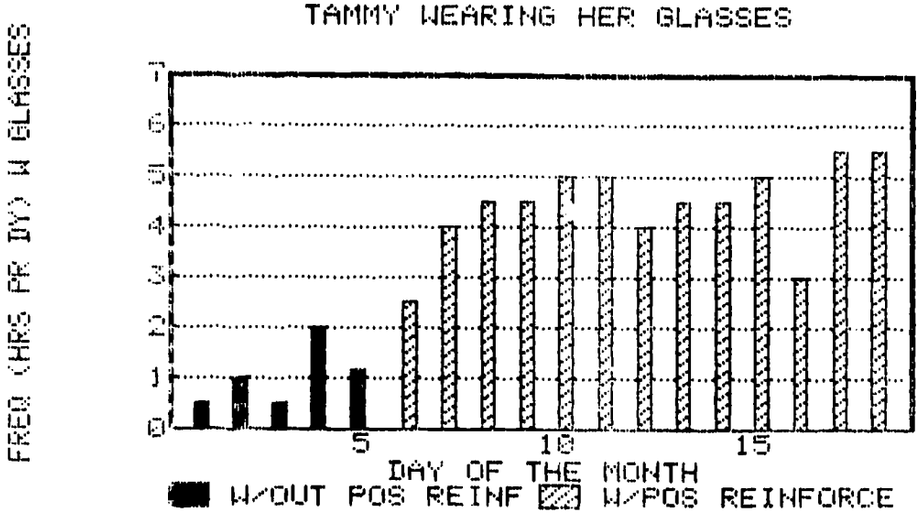
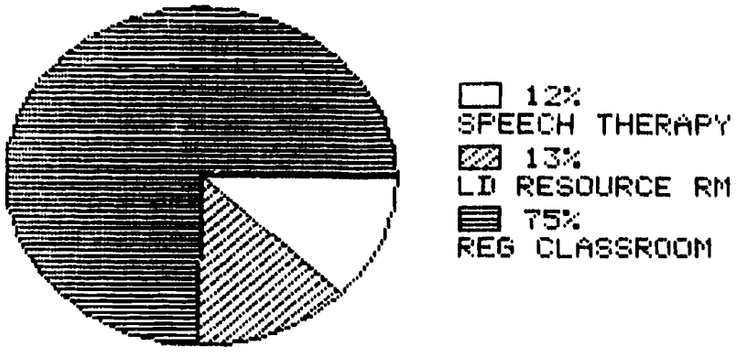
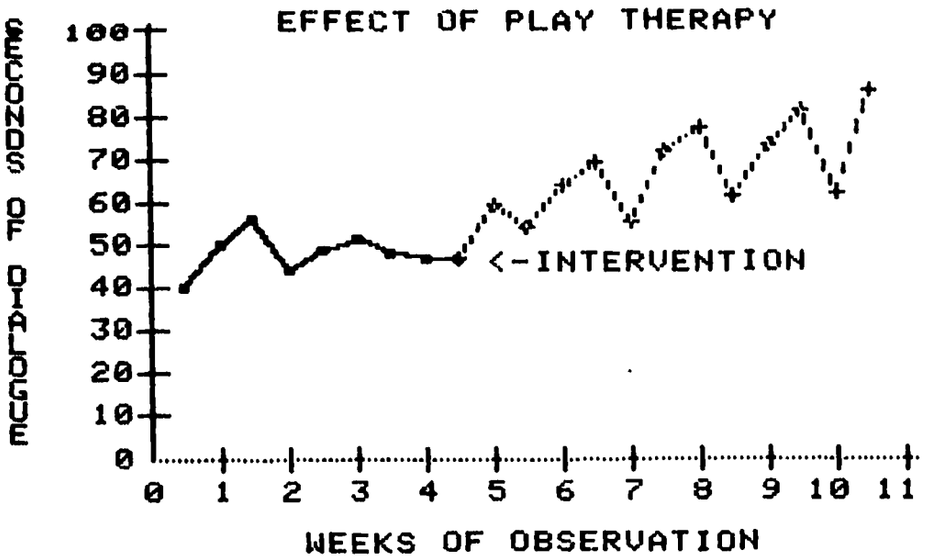


Figure 1 indicates the increasing number of hours Tammy wore her glasses at school. The first five days were considered a baseline period. Beginning with day six, her teacher rewarded Tammy with praise or a brief activity period every half hour she wore her glasses on her own initiative during school. Her self-initiated decision, followed by positive reinforcement, increased from two and one-half hours to five and one-half hours over a three-week period. (Linda Cmapbell, Longmont, CO)

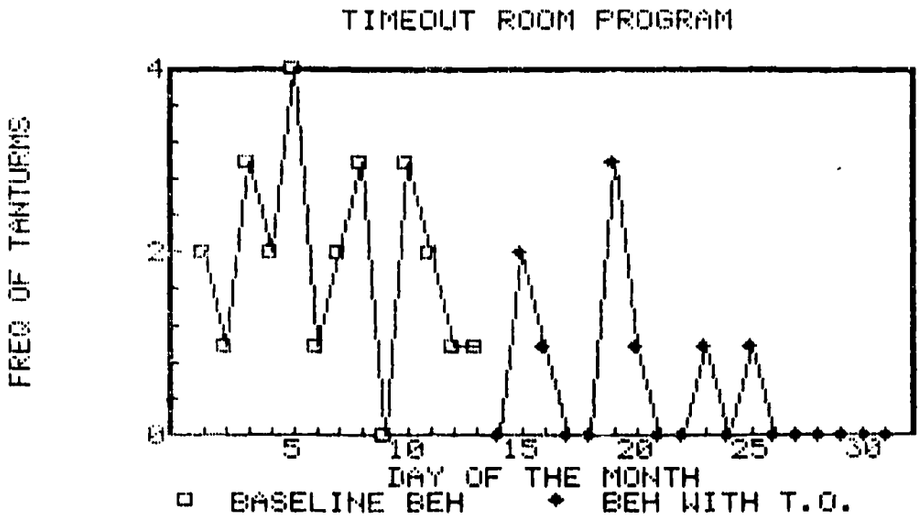
JOHN: TIME DISTRIBUTION
REG/SPECIAL EDUC PROGRAMS



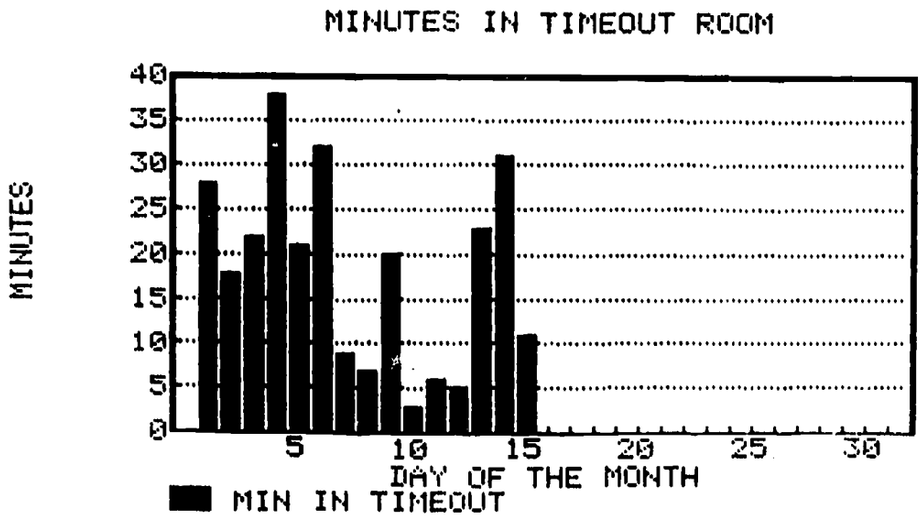
This graph shows the percentage of time that John spends in the regular classroom, the LD resource room, and in speech therapy. We see that John spends most of his school week (75%) in the regular classroom. Thirteen percent of his shcool week is spent in the LD resource room and about 12 percent of his school week is spent in speech therapy. (A graph like this may be especially useful in showing anxious parents that their child's school week is, for the most part, spent in the regular classroom.) (Wayne Winter, Castle Rock, CO)



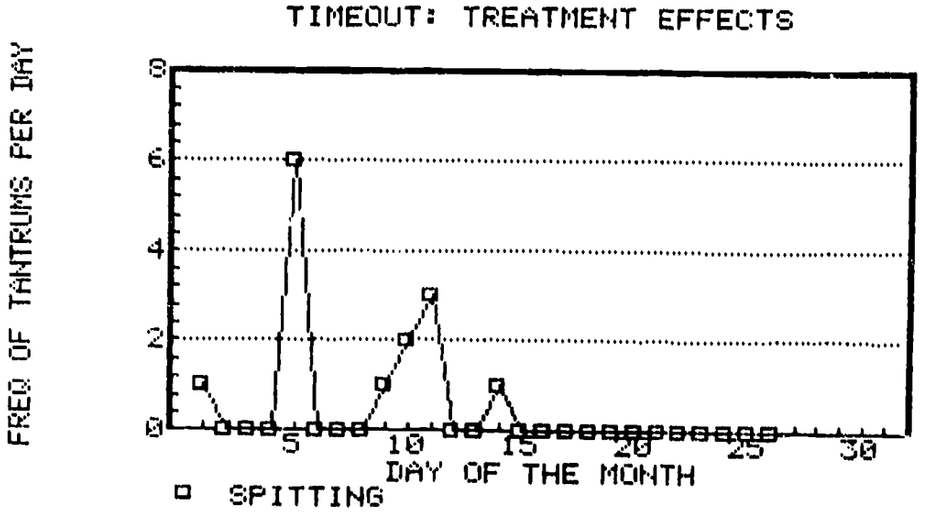
The student's amount of dialogue in group situations was measured before and after onset of play therapy for a total period of 11 weeks. The baseline rate of 47 seconds of dialogue was established before intervention and the behavior has increased an average of 5.5 seconds per week since intervention. (Linda Kasza, Evans, CO)



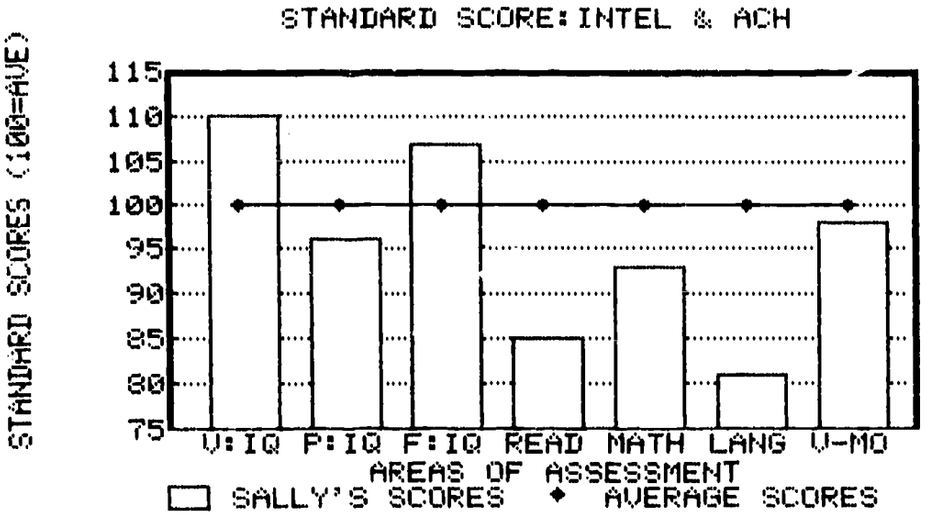
Obtaining a baseline was essential in comparing the effectiveness of an intervention. For this student, hitting and kicking behavior were gradually decreased by a consistent TOR procedure. (Bill Aldrich, Wilson County Schools, Lebanon, TN)



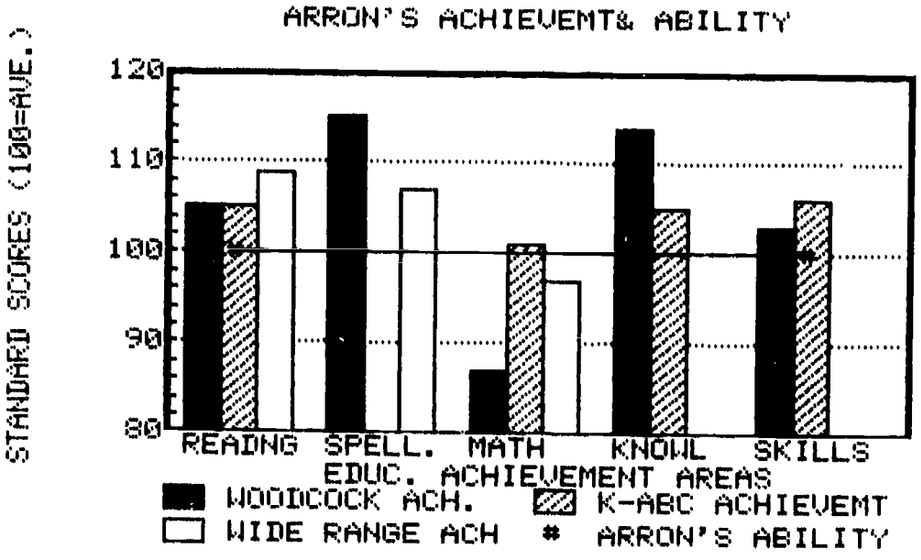
A bar graph can be used to monitor the length of time a student spends in the time-out room (TOR). Possible options would include, number of times the timer had to be reset, minutes before student behaved appropriately in TOR, or level of disruptive behavior immediately following session in TOR. (Bill Aldrich, Wilson County Schools, Lebanon, TN)



After operationally defining the target behavior, the intervention can be followed by a line graph. In this case, spitting behavior was terminated through use of a TOR procedure. (Bill Aldrich, Wilson County Schools, Lebanon, TN)



The formal assessment results obtained during this psychoeducational evaluation are displayed in the graph above so that a comparison can be made of Sally's skills in the various areas measured. (Kay Braccio, Lakewood, CO)



Aaron was referred for learning disability services. He is an active, constantly moving third grader. Graph was helpful in indicating to the teacher that Aaron was learning, that concerns are legitimate but need to be more focused on attention behaviors in the class and on peer relationships. Interesting to know that, regardless of test, math performance was lower, supportive of lower ability for sustained attention and consistent with Aaron's Ritalin dosage prescribed by physician. (Alex Thomas, Port Clinton Schools, Port Clinton, OH)

Although this is the last page,
it is not the end
of graphically
speaking,
it is
the

b
e
g
i
n
n
i
n
g